



Member's report on activities related to ICRI

UN Environment – Caribbean Environment Programme
Regional Coordinating Unit, Kingston, Jamaica

Reporting period November 2016 – November 2017

1. **Contribution to the ICRI Plan of Action 2016-2018.** *Your responses to the following questions will assist the Secretariat in assessing contributions towards the major themes of the current ICRI Plan of Action* (<http://www.icriforum.org/icri-secretariat/current>)

Theme 1 – “Help raise awareness of how coral reefs and related ecosystems help to fight climate change”

- *Goal 1-1: highlight the contribution of coral reefs, mangroves and seagrasses to mitigate and adapt to climate change and its impacts*

Question: Do you have examples of solutions provided by coral reefs and coastal systems to mitigate and adapt to climate change?

UNEP-CEP Collaboration for an Ecosystem-Based Management of coral reef ecosystems:

- **CLME+ Collaboration**

Contracting Parties to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (Cartagena Convention) have recently encouraged the Caribbean Environment Programme (CEP) as Secretariat to further enhance cooperation and coordination with regional fisheries organisations and mechanisms. This is in line with the endorsed regional policy under the on-going Project [Caribbean and North Brazil Shelf Large Marine Ecosystems Project¹](#) (CLME+) which seeks to guide harmonized sectoral policies and also strengthen cooperation between regional fisheries bodies and environmental organisations. In the context of ensuring an ecosystem-based management of coral reefs, UNEP-CEP supports CLME+ long-term objective of “Healthy Reef, Continental Shelf and Pelagic Ecosystems” and its strategy to “Enhance the governance arrangements for ecosystem-based management of reefs and associated ecosystems (e.g. seagrass beds, mangroves, reef slopes and coastal lagoons)”. UNEP-CEP was responsible for the implementation of the initial Pilot Project in 2010-2013, and has since continued to be engaged in the implementation of the CLME + Project and its sub-strategies for reef associated fisheries such as for Queen Conch and Spiny Lobster.

- **Blue Finance**

The Regional Activity Centre for the Protocol concerning Specially Protected Areas and Wildlife (SPA-W-RAC) under the Caribbean Environment Programme has also been involved in the innovative ecosystem-based management [Blue Finance](#) project (2015-2017), in partnership with GRID-Arendal, the Blue Solutions project, the French Initiative for Coral Reefs (IFRECOR), the Organization of American States and interested SPAW Parties.

¹ UNDP/GEF CLME+ Project: 2013. *The Strategic Action Programme For The Sustainable Management Of The Shared Living Marine Resources Of The Caribbean And North Brazil Shelf Large Marine Ecosystems (CLME+ SAP)* - Final Version (26 April 2013) including Annex with Ministerial Endorsements (status on May 9, 2017)

It provides guidance on the use of economic instruments to finance reef management based on the ecosystem services contributed by coral reefs by involving the private sector from the tourism industry in particular. By drawing on existing methodologies for Payment for Ecosystem Services and other non-public funding mechanisms that have been successfully applied in terrestrial settings, the BlueFinance project adapts them to address the needs of the coral reef environment and ecosystem service uses. It aims to achieve environmental, social and financial returns through strengthened collaborations with the private sector on coral reef conservation.

Sustainable financing mechanisms for marine managed areas are under consideration for Barbados, Antigua and Barbuda, Martinique and St. Kitts and Nevis.

- **Global Coral Reef Partnership**

In 2014, UN Environment and its Regional Seas Conventions and Action Plans ('Regional Seas') initiated a Global Coral Reef Partnership to support countries deliver internationally agreed coral reef commitments through ecosystem-based management of coral reefs, as called for in the Global Strategic Directions for the Regional Seas 2013-2016². Participating organizations, partners and networks include ICRI, the Global Coral Reef Monitoring Network (GCRMN), the National Oceanic and Atmospheric Administration's (NOAA) Coral Reef Conservation Program, the Reef-World Foundation, Green Fins Initiatives, UNEP-World Conservation Monitoring Centre and GRID-Arendal. The partnership directly contributes to implementation of these internationally agreed coral reef commitments, including Sustainable Development Goal 14; Aichi Biodiversity Target 10, 11 and 15; SAMOA pathway paragraph 58(e); and the ICRI Continuing Call to Action and Framework for Action.

- **Caribbean Marine Protected Area Management ([CaMPAM](#))**

In order to address the need of ecosystem-based management of coral reefs and enhance the connectivity between reefs for coral resilience, UN Environment - CEP / RAC-SPAW has coordinated since 1997 a network to provide leadership and for building capacity of marine protected areas in the Wider Caribbean Region (CaMPAM), and implemented its programmes in collaboration with a number of partners and donors, including the Gulf and Caribbean Fisheries Institute (GCFI) and NOAA. CaMPAM uses the annual GCFI scientific meeting and workshops as its fora to discuss emergent issues related to the management of Marine Protected Areas and provides a network of capacity building programmes to leaders and members. Some of the major activities implemented by CaMPAM include:

- The Training of Trainers for Marine Protected Areas Managers
- The CaMPAM Mentorship Programme
- Providing small and medium funds including grants to Promote Sustainable Fishing Practices and Alternative Livelihoods for Fishers
- The Marine Protected Area Database

In 2010, with funding from the Italian Ministry of Foreign Affairs, UN Environment - CEP / RAC-SPAW implemented through CaMPAM the project "Regional support for the Caribbean Challenge initiative: Networking, consolidation and regional coordination of Marine Protected Areas management" to support contracting parties of the SPAW Protocol and Caribbean Challenge objectives. The [Caribbean Challenge Initiative](#) was launched in 2008 with the support of The Nature Conservancy with the aim to meet protect 20% of the marine coastal environment by 2020, in line with Aichi Target 11. The project aims to strengthen linkages with the Global Island Network and other Small Island Developing States efforts.

- **One BEST 2.0 project promoting an Ecosystem-Based Management of coral reef ecosystems, in the Caribbean region (#1636)**

Within the voluntary scheme for Biodiversity and Ecosystem Services and Territories of European overseas (BEST 2.0), the SPAW-RAC, in partnership with the Natural Reserve of St Martin, is in charge of the coordination of the Caribbean regional hub.

² UNEP (2016). UNEP Global Coral Reef Partnership factsheet. CR.1/INF.4

In this context, a project which promotes an Ecosystem-Based Management of coral reef ecosystems was selected by the European Commission, in 2017, for the Caribbean regional hub, currently being carried out in the Turks and Caicos Islands (January - December 2017). It is entitled “Understanding East Caicos KBA's Corals and Coast: A Key to Safeguarding TCI's Future” and could, in the future, lead to the development of a conservation zone, incorporating “16 ecosystem service and biodiversity values and quantitative and qualitative assessment”³.

Question: Are you planning to add in your NDC the importance of coral reefs / mangroves?

N/A

Goal 1-2: encourage financing for projects and initiatives which help protect and restore coral reefs, mangroves and seagrasses

- **Coral Restoration Consortium (CRC)**

A collaboration among scientists, managers, and practitioners including NOAA, the Nature Conservancy, the Coral Restoration Foundation, UN Environment - CEP / SPAW RAC and various universities emerged in 2017, in response to priority recommendations from the November 2016 “Workshop to Advance the Science and Practice of Caribbean Coral Restoration” in the form of the Coral Restoration Consortium (CRC), to which CEP serves as a Steering Committee member.

The goals of CRC are particularly in line with ICRI’s Call for Action Goal 1.2.

The CRC’s mission is to foster collaboration and technology transfer among participants, and to facilitate scientific and practical ingenuity to demonstrate that restoration can achieve meaningful results at scales relevant to reefs in their roles of protecting coastlines, supporting fisheries, and serving as economic engines for coastal communities.

To help increase the scale and efficiency of coral restoration, the CRC focuses on the following topical priorities for the next three to five years: scaling-up in-water, land-based, and larval propagation; designing projects to demonstrate multi-species ecosystem functioning and coastal protection; coordinating and fostering genetics science into adaptive restoration; and developing restoration monitoring guidelines and common-access data platforms.

For each priority, a dedicated Working Group has been established to develop solutions-oriented action plans and to help establish best management practices.

- **Other collaborations**

Future possible collaborations opportunities (where funding available) include "Green Fins", which was initiated by UN Environment under the South East Asia Regional Seas Programme in effort to increase public awareness and management practices benefiting coral reefs through sustainable tourism practices.

Goal 2-3: take advantage of upcoming international events to pursue the advocacy for coral reefs and related ecosystems

SPAW-RAC ensured the promotion of GCRMN-Caribbean’s activities, as well as the dissemination of its guidelines (“GCRMN-Caribbean Biophysical Guidelines” and “GCRMN-Caribbean Socio-Economic Guidelines”), by participating in various international events. At ICRI 31st General Meeting (November 2016, Paris), the GCRMN-Caribbean presented its functioning, actions and work plan. At the 69th and 70th GCFI Conferences in 2016 and 2017, which represents an important forum in the Caribbean, GCRMN-Caribbean was presented and reported on the progress towards its revitalization, initial achievements, as well as network challenges and next steps. At the 9th Conference of the Parties to the SPAW Protocol (March 2017, French Guiana) both regional monitoring guidelines under GCRMN-Caribbean were promoted and included into the SPAW biennium work plan for 2017-2018.

³ IUCN (2017). Project “Understanding East Caicos KBA's Corals and Coast: A Key to Safeguarding TCI's Future” #1636: [online]. Available at <https://portals.iucn.org/best/?q=fr/node/944>

Theme 3: “Help to reduce human threats to coral reefs and associated mangroves and seagrasses, by making greater use of regulatory tools”

- *Goal 3-1: promote legal frameworks for the protection of coral reefs and associated mangroves and seagrasses, with quantified targets and effective enforcement to protect these ecosystems*

Question: What are the legal frameworks for the protection of coral reefs and associated mangroves and seagrasses in place in your countries? If you already replied to the previous request, you don't need reply

The Cartagena Convention and its Protocol SPAW, constitutes a legally binding agreement for the protection, management, development and sustainable use of the marine environment, and aims to promote and assist with the development and implementation of guidelines on species conservation and management.

The SPAW Protocol utilizes an ecosystem based approach to conservation by acting as a vehicle to assist with the regional implementation of multilateral agreements such as the Convention for Biological Diversity (CBD), the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and The Convention on Migratory Species (CMS).

- UN Environment - CEP activities for the protection & conservation of coral reefs

Protection of marine species under the SPAW Annexes

Contracting Parties to the SPAW Protocol (adopted in 1990 and entered into force in 2000; currently 16 Contracting Parties) adopted the Annexes of species requiring special protection. These Annexes outline coastal and marine species of flora (Annex I), and fauna (Annex II), requiring the highest level of protection for which exploitation is forbidden. Species of flora and fauna for which exploitation is authorized but regulated to ensure and maintain population at an optimal level are listed under Annex III. Recognizing the growing threats to reef ecosystems and the urgent call for action, coral species are listed under Annex III of the SPAW Protocol since 1991, ensuring legal protection to coral reefs among Contracting Parties to the Protocol. Acropora and Faviid corals have since been listed to Annex II in 2014 due to their IUCN “Endangered” status.

In the light of an ecosystem based management of coral reefs, fisheries species including Queen Conch, Caribbean Spiny Lobster and Nassau Grouper have also been listed under Annex III of the SPAW Protocol (1991 for Queen Conch and Spiny Lobster, 2017 for Nassau Grouper). An additional nine species of sharks and rays associated with reef habitats have also been added to Annexes II and III of the SPAW Protocol. Despite parrot fish fisheries being prohibited in Belize, Turk and Caicos, Bonaire, Puerto Rico and the U.S Virgin Islands (Choat et al 2012⁴), the need to list parrot fish under the SPAW protocol was one of the main recommendation ensuing from the GCRMN report “Status and Trends of Caribbean Coral Reefs: 1970-2012”¹¹ addressing the trophic cascade associated with the overfishing of herbivorous fish and the shift to macroalgae dominated state (Mumby et al 2006⁵), reiterated during 15th and 16th WECAFC sessions (Trinidad and Tobago, March 2014 and Guadeloupe, June 2016 respectively).

Protected Areas listed under the SPAW Protocol

Through the aforementioned activities, UN Environment - CEP is not only working towards meeting global Aichi Targets, but is also in line with ICRI's Call of Action Plan (2016-2018) Goal 3.1 to “Promote legal frameworks for the protection of coral reefs and associated mangroves and seagrasses, with quantified targets and effective enforcement to protect these ecosystems”.

⁴ Choat, J.H., Feitosa, C., Ferreira, C.E., Gaspar, A.L., Padovani-Ferreira, B. & Rocha, L.A. (2012). *Scarus guacamaia*. The IUCN Red List of Threatened Species 2012: [online]. Available at <http://dx.doi.org/10.2305/IUCN.UK.2012.RLTS.T19950A17627624.en>.

⁵ Mumby, P. J., Dahlgren, C. P., Harborne, A. R., Kappel, C. V., Micheli, F., Brumbaugh, D. R., ... & Buch, K. (2006). Fishing, trophic cascades, and the process of grazing on coral reefs. *science*, 311(5757), 98-101.

Within the CaMPAM database, 32 marine protected areas officially listed under the SPAW Protocol ensuring a legal framework for the protection of reefs. Some of the benefits associated with the listing of protected areas under the SPAW Protocol are:

- Access to additional avenues for dialogue and information sharing
- Strengthening the leadership role of Contracting Parties in marine conservation in the wider Caribbean
- Higher visibility resulting in possible increases in employment opportunities and income (e.g. from tourism)
- Increased likelihood of benefiting from SPAW grant

Of the current 32 SPAW-listed protected areas, 20 directly protect coral reefs.

Question: Did you to set quantified targets to protect their coral reefs, mangroves and seagrasses? And are you able to provide a % of what is currently protected in your country? Please define what you mean by protection?

N/A

- *Goal 3-2: encourage a ban on plastic microbeads in cosmetic products*

Question: How did you implement the recommendation to reduce plastic microbeads pollution in marine environment?

In the framework of the Cartagena Convention, the Protocol Concerning Pollution from Land-Based Sources and Activities (LBS Protocol) was adopted in 1999, entered into force in 2010 and currently has 13 Contracting Parties.

The LBS Protocol establishes regional effluent limitations for domestic waste water and requires the development of plans to address agricultural non-point sources of pollution. Moreover, it assists Member States in the Wider Caribbean Region to meet the goals and obligations of other multilateral agreements and initiatives, including the Global Plan of Action for the Protection of the Marine Environment from Land-Based Activities (GPA).

Through the Protocol, a number of initiatives are underway of relevance to the management of solid waste, plastics and micro plastics such as the "Trash Free Partnership International" involving US Environmental Protection Agency, Peace Corps, and Governments in Panama and Jamaica, which may be extended to other countries to promote community involvement in solid waste management.

Another initiative worth mentioning is the "Regional Action Plan for Marine Litter" (which addresses both land based and sea based sources) for the period 2014-2021, and the establishment of a Regional Node for Marine Litter with GCFI and CEP.

- *Goal 3-3: improve regulation and enforcement to reduce direct anthropogenic damage due to dredging and physical alteration of reef structures*

Question: are you working on this topic? If yes, could you please share with us your work. Please note that the information provided will help us to develop a recommendation for the next ICRI General Meeting. Please send us information as soon as possible,

- *Goal 3-4: promote the deployment of mooring devices limiting the mechanical destruction of coral reefs and seagrasses*

Question: are you working on this topic? If yes, could you please share with us your work. Please note that the information provided will help us to develop a recommendation for the next ICRI General Meeting. Please send us information as soon as possible,

- **Goals 3-3 and 3-4**

There are future possible collaborations opportunities with "Green Fins" (as reported above). "Green Fins is a comprehensive approach that encourages dive centres and snorkel operators, local communities and governments to work together to reduce their environmental impacts. This is

primarily done through the private sector adopting a Code of Conduct that will help mitigate their impacts when carrying out marine tourism activities.”⁶

Additionally, Green Fins includes, within its “Best practice for the dive staff”, the following recommendation: “always use mooring buoys and install and maintain where possible”.⁷

- *Goal 3-5: review issues related to the impact of sunscreens and other endocrine disruptors on coral reefs, and encourage the production of sunscreens that are proven not to damage coral reefs*

Question: are you working on this topic? If yes, could you please share with us your work. Please note that the information provided will help us to develop a recommendation for the next ICRI General Meeting. Please send us information as soon as possible.

N/A

Theme 4: “Monitor the state of reefs in order to better manage them”

Goal 4-1: promote regional reports on the health of coral reefs

- **GCRMN-Caribbean**

The Global Coral Reef Monitoring Network (GCRMN) was established to support the ICRI’s Call to Action and Framework for Action in 1994. This network works through regional networks, comprising a variety of institutions, with the aim of strengthening the provision of the best available scientific information and communication on the status and trends of coral reef ecosystems, for their conservation and management.

The regional GCRMN network for the Caribbean region (GCRMN-Caribbean) is an open and growing network of coral reef scientists and managers involved with coral reef monitoring in the wider Caribbean region. Coordinated by the UN Environment-CEP and its Regional Activity Center, the SPAW-RAC, it is led by a Steering Committee composed of a fifteen regional experts, assisted by Members-at-large. Currently, more than 100 Members are sharing experiences, information and knowledge within this network.

To address the findings of the State of Caribbean Coral report, UN Environment-CEP / SPAW-RAC and the Dutch Ministry of Economic Affairs organized a workshop, from 6 to 8th August 2014 in Curaçao⁸ with the objectives of “Reviewing, improving and revitalizing the network and the nodes for a more effective coral reef monitoring and data management”. UN Environment-CEP led the re-launching of the GCRMN-Caribbean which had suffered reduced functionality in data collection, information archiving and disseminating. SPAW-RAC is engaged in strengthening coral reef monitoring to ensure the collection of useful and accessible data that can effectively reveal the status and trends of the coral reefs in the region.

To this end, the GCRMN-Caribbean published minimum as well as preferred coral reef monitoring guidelines for ecological and socio-economic data collection, to be disseminated within the Caribbean region (the “GCRMN-Caribbean baseline scientific monitoring guidelines for Biophysical Monitoring” and the “GCRMN-Caribbean guidelines for integrated coral reef monitoring”). These guidelines were drafted using the experience and lessons learned from long term and well vetted scientific protocols, and seek to provide a compromise between practical applicability and ease of

⁶ About Green Fins, Available at: <http://www.greenfins.net/en/about>

⁷ Green Fins’s Guidelines to the Code of Conduct, Best practice for the Dive Staff, Guideline #3, Available at: <http://greenfins.net/en/Guides>

⁸ UNEP: 2014. *Report of the Workshop of GCRMN for the Wider Caribbean: Review, improve and revitalize the network and the nodes for more effective coral reef monitoring and data management Curaçao* "- Curacao, 6-8 August 2014. UNEP-CEP / SPAW-RAC /Ministry of Economic Affairs of the Netherlands.

comparison between existing methods and long-term datasets (kindly refer to “Publications” for more details).

In this context, UN Environment-CEP / SPAW-RAC coordinated the first GCRMN-Caribbean Integrated Coral Reef Monitoring Workshop⁹ (Discover Bay Marine Laboratory, Jamaica, April 2016). The scientific capacity building event, “GCRMN-Caribbean Guidelines Capacity Building Workshop: Towards comprehensive coral reef monitoring” integrated the newly endorsed biophysical and socio-economic guidelines to the training programmes.

In 2016, following the First Integrated Coral Reef Monitoring Workshop, GCRMN-Caribbean coral reef monitoring guidelines were implemented in Cuba¹⁰, Jamaica, Bermuda, the French and Dutch Antilles and in over 55 sites including reefs located within the limits of SPAW-listed Marine Protected Areas (St Eustatius Marine Park¹¹, Man O War Shoal National Marine Park¹²).

Subsequently, with partial sponsorship generously provided by The National Fish and Wildlife Foundation (NFWF), the GCRMN-Caribbean guidelines are being implemented, in the framework of the project “Capacity Building for Coral Reef and Human Dimensions Monitoring within the Wider Caribbean”. A training workshop took place (Port Royal Marine Laboratory, Jamaica, October 2017) with participants from Jamaica and Cuba, and a second workshop will be held in Saint Martin in 2018, with participants from Saint Martin, Sint Marteen, Saba, Sint Eustatius, and Saint Barthélémy. As a follow-up to the workshops, a grant will be allocated for biophysical and socio-economic monitoring activities based on capacity and resource needs. Such undertaking will result in the first complete integrated coral reef and human dimensions assessment carried out under GCRMN-Caribbean.

The GCRMN-Caribbean will continue to promote harmonized data collection through the implementation of guidelines in additional sites and member countries, as well as promoting the standardization of data analysis and reporting within the region.

- *Goal 4-2: better monitor the phenomena of coral bleaching*

Question: How did you implement the recommendation on addressing the decline in coral reef health due to global bleaching events?

Within the Teamwork platform (kindly refer to Goal 5-2), discussion occurred between members on the theme of “Coral Bleaching Response Plan and Protocols”, with exchanges of relevant material from their national legislations on this issue.

Moreover, in the framework of the NOAA initiative “Coral Reef Watch”, Teamwork members gathered coral bleaching data from their countries, to be shared with NOAA.

Theme 5: “Progress via education”

- *Goal 5-1: prepare for the 2018 International Year of the Reef (IYOR)*

Question: How did you implement the Recommendation designating 2018 as the third International Year of the Reef? Please let us also know what are you planning to celebrate IYOR2018.

CEP is committed to implementing the Recommendation and planning to celebrate the IYOR by intensifying efforts on the GCRMN-Caribbean network (kindly refer to goal (4).1), by participating

⁹ UNEP-CEP SPAW-RAC (2016). *First GCRMN-Caribbean integrated coral reef monitoring workshop in Jamaica, April 2016*. [online] Available at <http://www.car-spaw-rac.org/?First-GCRMN-Caribbean-integrated,665>

¹⁰ UNEP-CEP SPAW-RAC (2016). *New monitoring large scale effort from GCRMN-Caribbean partners!* [online] Available <http://www.car-spaw-rac.org/?New-monitoring-large-scaled-effort,699>

¹¹ UNEP-CEP SPAW-RAC (2016). *GCRMN-Caribbean Coral Reef Monitoring started in St. Eustatius !* [online] Available at <http://www.car-spaw-rac.org/?Caribbean-GCRMN-Coral-Reef,610>

¹² UNEP-CEP SPAW-RAC (2016). *New GCRMN-Caribbean Coral reef monitoring sites in Sint Maarten and Cuba!* [online] Available at <http://www.car-spaw-rac.org/?New-GCRMN-Caribbean-Coral-reef,686>

actively into the Coral Restoration Consortium (kindly refer to goal (1).2) and strengthening collaborations for an Ecosystem-Based Management of coral reef ecosystems (kindly refer to goal (1).1), as well as the legal framework for coral reef preservation (kindly refer to goal (3).1).

CEP is exploring the possibility for the convening of a technical session at the 71th GCFI conference, to be held in San Andres, Colombia, in 2018, within the framework of the IYOR. This technical session would serve as a forum for the exchange of information and perspectives among decision-makers, scientists, managers, educators, resource users, and students on various issues of relevance to coral reef management.

Please also list the educational material that you’ve developed in the past, so we can share it on the IYOR website.

Kindly refer to part 2. “Publications”.

Question: Would you like to report on one of your activities during the ICRI GM meeting?

CEP would like to take this opportunity report on activities related to the Caribbean initiatives regarding Coral Reefs, within the framework of the SPAW Protocol and related to the GCRMN-Caribbean activities, in the form of an oral presentation, especially on:

- the regional efforts led in the Caribbean region, to harness the protection of coral reefs, particularly within the Cartagena Convention and its SPAW protocol
- the progress on the GCRMN-Caribbean network
- the creation of a Coral Restoration Consortium (kindly refer to goal (1).2).

Goal 5-2: increase awareness among the general public, communities, and young people

- UN Environment - CEP as a platform

GCRMN-Caribbean platform: “Teamwork”

SPAW RAC established and manages a “Teamwork” platform, in order to ensure communication and encourage collaboration and exchange of relevant material between members:

- of the GCRMN-Caribbean Steering Committee in a separate forum, which enhance leading and decision making
- of all GCRMN-Caribbean members (Steering Committee members and members at large), as well as other stakeholders, such as coral reef monitoring practitioners, Marine Protected Areas managers and scientists, and any other person interested in Coral Reef Monitoring. The network currently comprises more than 120 participants.

SPAW-RAC also publishes a Newsletter 3 times a year, intended to the general public.

2. Publications. Please list relevant publications/reports (related to the ICRI plan of action) you have released during this reporting period.

UN Environment-CEP Publications

- **Alien Invasive Species**

In response to the serious proliferation of lionfish and associated fish, with coral reef ecosystems decline, UN Environment-CEP has been involved in, collaborated with and coordinated a number of initiatives and activities in the Caribbean. Efforts were carried out in the context of the Global Environment Fund (GEF) funded project on “Mitigating the threats of Invasive Alien Species in the Insular Caribbean” (MTIASIC)¹³ between 2009-2013. The project was implemented in four Caribbean countries, with the main objective to develop strategies and actions on a regional level, and in the countries concerned, to mitigate the impact of invasive alien species on the local biodiversity and economy in the insular Caribbean. MTIASIC was the first ever project in the Caribbean that through

¹³ UNEP: 2014. Terminal Evaluation of the Project “Mitigating the Threat of Invasive Alien Species in the Insular Caribbean”. UNEP IMIS #: GFL/-2328-2740-4995 // GEF ID #: 3183

building local capacity, made steps to mitigate the threats from Invasive Alien Species on local biodiversity. Of the twelve pilot projects designed for the prevention, early detection and eradication of the most problematic invasive species, two were focused on lionfish management in the Bahamas and Jamaica.

The Regional Lionfish Committee was established in November 2010 as a combined effort of UN Environment-CEP / SPAW-RAC, NOAA, the Centre for Agricultural Bioscience International (CABI), the Reef Environmental Education Foundation (REEF), the Mexican National Commission of Natural Protected Areas (CONANP) and Caribbean experts to strengthen the response against the lionfish invasion. Following the 7th Conference of Parties of the SPAW Protocol (COP7, October 2012), activities addressing Invasive Alien Species have been included:

- The development of a webportal of Caribbean lionfish contact list to facilitate dissemination of information hosted by SPAW-RAC
- The organisation of specialized technical workshops including: the Training of trainers workshops on “Lionfish Handling and Collecting”, Coordinated strategy to prevent and control invasive species by fishing (Gosier, Guadeloupe 10-11 July 2013), Lionfish Management Workshop (Panama, 12 November 2015)
- The joint writing and development of a Regional Lionfish Control Strategy which intends to provide a framework to help guide action by stakeholders concerned with, and impacted by, the lionfish invasion.
- Publication of a best practice manual entitled “Invasive Lionfish: A guide to the Control and management” (Morris 2012¹⁴) was published with the support of NOAA, REEF, ICRI, UN Environment-CEP / SPAW-RAC. The purpose of this manual is to assist coastal managers and field workers with local control and research efforts for invasive lionfish to contribute to the protection of reef ecosystems.

- **GCRMN-Caribbean Biophysical Guidelines**

The need for standardized data collection and reef monitoring methodology was highlighted by the UNEP/IUCN GCRMN report (2014) in order to assess the status and trends of Caribbean coral reefs to produce reliable regional reports in compliance with Goal 4-1.

To achieve this objective, a collaborative effort between GCRMN and UNEP CEP/RAC resulted in the publication of the “GCRMN-Caribbean Biophysical Guidelines”^{15,16} detailing a set of parameters and data collection techniques for ecological monitoring to be applied across the Caribbean. The document was reviewed and endorsed by the 7th Meeting of the SPAW Scientific and Technical Advisory Committee (STAC7, Miami, Florida, November 2016), and was introduced to participants of the two GCRMN-Caribbean Workshops, which took place in April 2016 and October 2017 (see above for more details).

- **GCRMN-Caribbean Socio-Economic Guidelines**

UN Environment-CEP, in collaboration with GCRMN has recognized since 2000 the importance of using an integrated approach to coral reef monitoring, as coastal resources cannot be effectively managed with biophysical scientific monitoring being the only focus. The network developed, seeks to promote the systematic implementation of social science indicators to enhance the ability to make connections and inferences between observed changes in the coral reef ecosystem quality and human and social parameters.

¹⁴ Morris, J.A., Jr. (Ed.). (2012). *Invasive Lionfish: A Guide to Control and Management*. Gulf and Caribbean Fisheries Institute Special Publication Series Number 1, Marathon, Florida, USA. 113 pp.

¹⁵ UNEP: 2016. *GCRMN-Caribbean Guidelines for coral reef biophysical monitoring*, 12 October 2016, UNEP(DEPI)/CAR WG3.8/INF.17

¹⁶ UNEP: 2017. *GCRMN-Caribbean Guidelines for Integrated Coral reef Monitoring*, 2017, UNEP(DEPI)/CAR WG.38/5 Rev.1 Ninth Meeting of the Contracting Parties (COP) to the Protocol Concerning Specially Protected Areas and Wildlife (SPAW) in the Wider Caribbean Region Cayenne, French Guiana, 13 March 2017

From the “Socio-Economic Manual for Coral Reef Management” (Bunce et al 2000¹⁷) intended to improve the understanding of social and economic conditions and motivations associated with the use of reef ecosystems, regional guidelines for the Caribbean were developed, “Socioeconomic Monitoring Guidelines for Coastal Managers in the Caribbean” (Bunce et al 2003¹⁸). It is a “global initiative for establishing site level socio-economic coastal and marine monitoring programmes known as Socio-economic Monitoring for Coastal Management (SocMon)”¹⁹. SocMon is a regionally adapted, practical methodology for socio-economic monitoring for coastal management.”²⁰ As in the case of the Biophysical Guidelines, the SocMon Guidelines were presented to participants of the two GCRMN-Caribbean Workshops (see above for more details).

3. General Information.(Note that this information will be posted on the ICRI website on your member page: <http://www.icriforum.org/about-icri/members-networks>.)

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Thank you very much for sharing your valuable experiences and information with ICRI.

¹⁷ Bunce, L., Townsely, P., Pomeroy, R. and Pollnac, R. (2000). *Socioeconomic Manual for Coral Reef Management*. Australian Institute of Marine Science and IUCN, Townsville, Australia

¹⁸ Bunce, L. and Pomeroy R., (2003). *Socioeconomic Monitoring Guidelines for Coastal Managers in the Caribbean*. World Commission of Protected Areas & Australian Institute of Marine Science

¹⁹ ICRI (2017).Global Coral Reef Monitoring Network for the Caribbean trained 16 participants in Coral Reef and Human Dimensions Monitoring during Workshop in Jamaica: [online] Available at <https://www.icriforum.org/news/2017/10/global-coral-reef-monitoring-network-caribbean-trained-16-participants-coral-reef-and-h>

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